

Engineering Design File

Dust Suppressant Application to the Exposed Face of the Excavation

Portage Project No.: 2073.00
Project Title: PM-2A Remediation Phase I



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1. Portage Project No.: 2073.00 2. Project/Task: PM-2A Remediation Phase 1

3. Subtask: Tank Excavation

4. Title: Dust Suppressant Application to the Exposed Face of the Excavation

5. Summary:
This engineering design file determines the type and quantity of dust suppressant to be applied to exposed surface of the PM-2A tanks excavation to prevent generation of fugitive dust emissions from causing surface contamination on construction equipment.

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(Identify minimum reviews and approvals. Additional reviews/approvals may be added.)

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1. INTRODUCTION AND PURPOSE

The purpose of this engineering design file is to identify and calculate the quantity of dust suppressant to be applied to the excavation face to prevent the generation of fugitive dust. The dust suppressant will be applied to minimize the risk of contaminating construction equipment.

2. DUST SUPPRESSANT SELECTION

A number of dust suppressants and methods were reviewed and evaluated for application for onsite operations. Based on this review and to minimize potential for contaminated runoff, the dust suppressant ProGuard SB was selected. Other appropriate dust-suppression techniques may be used, including the use of water spray during field operations, as determined by field personnel.

ProGuard SB has been tested and used at the Idaho National Engineering and Environmental Laboratory (INEEL), mostly recently at the Test Area North (TAN)-616 closure site. ProGuard SB is combination of recycled newspaper and a proprietary mix of polymers that results in a non-toxic, nonhazardous material. After application, ProGuard SB will suppress volatile organic compounds, radon gas, odor, and dust for up to 10 days. The application to the face of the excavation should significantly reduce the potential for generation of airborne contamination during onsite work.

3. APPLICATION

The material will be sprayed on the exposed face of the excavation to prevent the generation of airborne fugitive contamination. Application can be performed using a hydroseeder that is currently owned and available at the TAN facility. The total surface area of the tank excavation is approximately 15,000 ft². The dust suppressant will be mixed with water and applied at a rate of approximately 1 bag of ProGuard SB per 1,500 ft² of surface area to be covered as recommended by the manufacturer or as necessary as determined by field personnel. At the recommended application rate, the material consumption will be approximately 10 bags of ProGuard SB per application. Typically, the product is effective for a period of 7 to 10 days and would be applied as deemed necessary by field personnel. ProGuard SB can be applied in most weather conditions from light to moderate rain or snow, freezing temperatures, and in windy conditions. The cost for application materials is approximately 1.8¢ per square foot, \$27 per bag, or \$270 per application.

4. CONCLUSIONS AND RECOMMENDATIONS

ProGuard SB has been previously used at the INEEL and recently at the TAN facility for dust-suppression applications. This material will meet the requirements for dust suppression on the exposed face of the tank excavation, thereby minimizing the potential for the spread of contamination.

Attachment I

ProGuard SB Information

www.nwci.com

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ProGuard SB

" . . . ProGuard SB eliminates dust and powders, and delivers effective overnight cover for under \$0.02 per square foot."

ProGuard SB is the newest, easiest, most cost effective alternative daily cover material is here. It offers the quality you have come to expect from New Waste Concepts, with the added ease of a single component system. Just mix the single bag blend of recycled fibers and polymers with water in the ConCover All Purpose Sprayer (CAPS) and apply.

Cost Effective

ProGuard SB is formulated to cost under two cents a square foot. See how much you can save when your landfill switches to ProGuard SB. Click here to open our Alternative Daily Cover Savings Calculator.

Easy To Use

ProGuard SB alternative daily cover is a blend of engineered polymer and recycled fibers. This eliminates fine powders and dusts while providing reliable overnight protection without the hassle of handling two dry components.

Site Support and Evaluation

Our knowledgeable staff will train your operators on product application and usage, then follow up with routine visits to ensure you are getting the maximum benefit from ProGuard SB. If you would like superior overnight coverage at an affordable price, give us a call. A New Waste Concepts representative will be happy to discuss how we can put ProGuard SB to work for you.

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Landfill Products from New Waste Concepts

"...ProGuard SB eliminates dust and powders, and delivers effective over-night cover for pennies a square foot."

The newest, easiest, most cost effective alternative daily cover material is here. ProGuard SB offers the quality you have come to expect from New Waste Concepts, with the added ease of a single component system. Just mix the single bag blend of recycled fiber and polymers with water in the ConCover All Purpose Sprayer (CAPS) and apply.

Cost Effective

ProGuard SB is formulated to cost just **pennies a square foot**. Once you've tried ProGuard SB, you'll agree, there is no better ADCM. Let New Waste Concepts put ProGuard SB to work for you.

ProGuard SB Single Bag System



Easy To Use

ProGuard SB alternative daily cover is a blend of polymers and recycled fiber that provides reliable overnight protection, without the hassle of two dry components. ProGuard SB is unique in that the engineered polymers and recycled fibers are combined into one dry component which eliminates fine powders and dust.

Site Support and Evaluation

Our knowledgeable staff will train your operators on product applications and usage, and then follow up with routine visits to insure you are getting the maximum benefit from ProGuard SB.

If you'd like to experience superior overnight coverage at an affordable rate, give us a call. A New Waste Concepts representative will be happy to discuss how we can put ProGuard SB to work for you.



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**Fewer
Bags.
More
Coverage.
Lower
Cost.**

**Count
the
Square Feet!**



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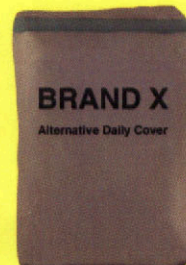
**1 Bag
of
ProGuard SB
covers
1500
Square Feet.**

**Actual Cost:
1.8¢
SQ. FT.**



**3 Bags
of
Brand X
cover
1200
Square Feet.**

**Actual Cost:
2.8¢
SQ. FT.**





MATERIAL SAFETY DATA SHEET

Trade Name: *ProGuard Single Bag[®] / ProGuard SB[®]*

Section I - General Information

Product Name: ProGuard Single Bag[®] / ProGuard SB[®]
Manufacturer: New Waste Concepts, Inc.
26624 Glenwood Road
Perrysburg, Ohio 43551
(419) 872-2190
Date MSDS Prepared: August 29, 2003
Last Review Date: August 29, 2003
MSDS Preparer's Name/Address: Prepared by manufacturer
Unit of Issue/Container Type: Plastic bag/ 40 lb bales
Product Description: Recycled paper fiber and polymer

Section II - Ingredient/Identity Information

Proprietary (Y/N): Y

Section III - Physical/Chemical Characteristics

Appearance and Odor: Fibrous with brown or natural green color
Boiling Point: N/A
Melting Point: N/A
Vapor Pressure: N/A
Vapor Density: N/A
Specific Gravity: N/A
Decomposition Temperature: N/A
Evaporation Rate: N/A
Solubility (H₂O): Slightly Soluble
Percent Volatiles by Volume: N/A
Viscosity: N/A
pH: N/A

Section IV - Fire and Explosion Hazard Data

Flash Point: ~525 F°
Lower Explosive Limit: N/A
Upper Explosive Limit: N/A
Extinguishing Media/Methods: Use CO₂, dry chemical foam, or water
Special Fire Fighting Methods: None
Unusual Fire/Explosive Hazards: As supplied, if ignited, dry bales will burn

Section V - Reactivity Data

| | |
|-----------------------------------|-----------------------------------|
| Stable (Y/N): | Y |
| Conditions To Avoid: | Heat/fire |
| Materials To Avoid: | None known |
| Hazardous Decomposition Products: | CO ₂ , CO ₃ |

Section VI - Health Hazard Data

Routes of Entry:

| | |
|--------------------------------|--|
| Inhalation (Y/N): | Y |
| Skin (Y/N): | N |
| Ingestion (Y/N): | N |
| Other: | N |
| Contact Eye/Skin Hazards: | N/A |
| Acute Overexposure Symptoms: | Avoid prolonged inhalation of fiber material |
| Chronic Overexposure Symptoms: | None known |

Emergency Treatment/ First Aid Procedures:

| | |
|---------------------|---|
| Gross Inhalation: | Move victim to fresh air environment. Seek medical attention |
| Gross Ingestion: | No oral toxicity known |
| Skin Contact: | Wash affected areas with soap and water |
| Severe Eye Contact: | Flush eyes with water for 15 minutes. Seek medical attention if irritation persists |

Section VII - Precautions For Safe Handling and Use

Personal Protective Equipment (Routine Use):

| | |
|----------------------------------|---|
| Respirator Protection: | Face shield recommended but not required |
| Gloves: | Recommend latex, butyl rubber, or nitrile gloves |
| Eye Protection: | Safety goggles or glasses recommended |
| Other: | None |
| Work Practices: | This product is to be used in outdoor environments. Do not use in the presence of ignition sources. |
| Ventilation: | Use outdoors |
| Spill/Release Procedures: | Sweep material into drums and dispose of in accordance to local, state, and federal laws. Does not need to be reported to CERCLA or RCHA. |
| Neutralization Procedures: | N/A |
| Waste Disposal Procedures: | This material is not hazardous, nor does it exhibit any hazardous waste characteristics |
| Storage/Handling Procedures: | Store product in a dry environment |
| Other Health Hazard Precautions: | Use proper lifting procedures when attempting to dispense product from 40 lb. bales |

User will treat the above as "CONFIDENTIAL TECHNICAL INFORMATION", which information shall be used only by the user or subsidiaries or parent of the user. This data when transmitted to other parties should always be labeled "CONFIDENTIAL TECHNICAL INFORMATION, irrespective of to whom it is being transmitted.

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